

**REMARKS / ARGUMENTS**

Claims 1-40 are pending in the instant application. Claims 1, 21 and 32 are amended to clarify the claim language. Claims 1, 21 and 32 are independent. The Applicant requests reconsideration of the claims in view of the following amendments reflected in the listing of claims.

Claims 1-7, 14-20, 24-29 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Sowadski (U.S. 5,179,728, hereinafter Sowadski) in view of Otto (U.S. 4,812,849, hereinafter Otto).

Claims 8-10, 30 and 31 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Sowadski, in view of Otto, as applied to claims 1 and 21 above, and further in view of Boesch et al. (US 6,298,244, hereinafter Boesch).

Claims 11-13 and 22-23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Sowadski, in view of Otto, as applied to claims 1 and 21 above, and further in view of Cairns (US 5,794,131, hereinafter Cairns).

Claims 32-35, 39 and 40 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Sowadski, in view of Otto.

Claims 36 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Sowadski, in view of Otto, as applied to claim 35 above, and further in view of Puechberty et al. (US 6,026,287, hereinafter Puechberty).

Claims 37 and 38 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Sowadski, in view of Otto, as applied to claim 32 above, and further in view of Boesch.

The Applicant respectfully traverses these rejections at least for the reasons based on the following remarks.

#### **I. REJECTION UNDER 35 U.S.C. § 103**

In order for a *prima facie* case of obviousness to be established, the Manual of Patent Examining Procedure, Rev. 6, Sep. 2007 ("MPEP") states the following:

The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1396 (2007) noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Federal Circuit has stated that "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness."

See the MPEP at § 2142, citing *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006), and *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d at 1396 (quoting Federal Circuit statement with approval). Further, MPEP § 2143.01 states that "the mere fact that references can be combined

or modified does not render the resultant combination obvious unless the results would have been predictable to one of ordinary skill in the art" (citing *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1396 (2007)). Additionally, if a *prima facie* case of obviousness is not established, the Applicant is under no obligation to submit evidence of nonobviousness:

The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness.

See MPEP at § 2142.

**A. The Proposed Combination of Sowadski and Otto Does Not Render Claims 1-7, 14-20, 24-29 Unpatentable**

The Applicant now turns to the rejection of claims 1-7, 14-20, 24-29 as being unpatentable over Sowadski in view of Otto.

**A(1). Independent Claims 1, 21, and 32**

With regard to the rejection of independent claim 1 under 35 U.S.C. § 103(a), the Final Office Action states the following:

With respect to claim 1, Sowadski discloses a method for reducing phase noise (Abstract), comprising: Generating a signal at a particular frequency, the signal being associated with a harmonic frequency signal disposed at a harmonic frequency (col.2, lines 1-36, col. 3, lines7-40, Fig.1).

See Office Action at page 3. Initially, the Applicant points out that the Abstract of **Sowadski discloses** a superheterodyne **radio receiver system** for **suppressing spurious product signals and radiation** resulting from the leakage of local oscillator signal energy in **radio receivers**. See Sowadski at Abstract. Sowadski does not disclose any phase noise reduction, since it is a relevant problem in a transmitter, not in a receiver such as that disclosed by Sowadski. In this regard, the Abstract of **Sowadski does not disclose or suggest** “a method **for reducing phase noise, comprising ... in a transmitter**,” as recited in claim 1 by the Applicant. The Applicant therefore maintains that Sowadski is not a relevant prior art.

Assuming for the sake of argument that Sowadski's receiver is a relevant prior art (which it is not), the Applicant submits that the combination of Sowadski and Otto still does not disclose or suggest at least the limitation of “**generating, in a transmitter, a signal** at a particular frequency, the signal **being associated with a harmonic frequency signal** disposed at a harmonic frequency,” as recited by the Applicant in independent claim 1.

In the Office Action, the Examiner relies for support on Figure 1, col. 2, lines 1-36 and col. 3, lines 7-40 of Sowadski, alleging that Sowadski discloses “generating a signal at a particular frequency, the signal being associated with a harmonic frequency signal disposed at a harmonic frequency”. The Applicant points out that not only Sowadski does not disclose generating a signal in a

transmitter, the Examiner has failed to specifically identifying which signal is the alleged "signal is generated at a particular frequency," as recited in the Applicant's claim 1.

Even if the Examiner is equating Sowadski's local oscillator signal (LOS) to the claimed "signal is generated at a particular frequency," the Applicant submits that Sowadski still does not disclose that the generated LOS signal is "being associated with a harmonic frequency," as recited in claim 1 by the Applicant. Instead, Sowadski discloses that the generated LOS, generates two IF signals IFC1 and IFC2, and the undesired mixing spurious products. The Applicant points out that the generated IF signals IFC1 and IFC2, the LO leakage signal (LOS) and the mixing spurious products are associated to the generated LOS, but they **are not** being associated with a harmonic frequency signal. Therefore, the Applicant maintains that Sowadski does not disclose or suggest the limitation of "**generating, in a transmitter, a signal** at a particular frequency, the signal **being associated with a harmonic frequency signal** disposed at a harmonic frequency," as recited by the Applicant in independent claim 1. Otto does not overcome this deficiency of Sowadski.

In addition, with regard to the rejection of independent claim 1 under 35 U.S.C. § 103(a), the Applicant submits that the combination of Sowadski and Otto does not disclose or suggest at least the limitation of "selecting, in said transmitter, frequency content disposed in a region around the harmonic frequency," as recited

by the Applicant in independent claim 1. In page 3 of the Office Action, the Examiner concedes that Sowadski does not disclose or suggest "selecting, in said transmitter, frequency content disposed in a region around the harmonic frequency, attenuating, in said transmitter, said selected frequency content disposed in said region around the harmonic frequency" as recited by the Applicant in claim 1. The Examiner then looks for support to Otto and states the following:

"In the same field of endeavor Otto teaches band pass filter means are connected as close as feasible to the respective power dividers and serve to isolate the dividers at the region of the third harmonic of said fundamental reference frequency from effects on nonquadrature error arising (col.2, lines 33-50, col.4, lines 29-67) [the selection has to occur in order for the filter to block the region of the third harmonic]. Otto does not overcome this deficiency of Sowadski."

See Office Action at page 3. The Examiner cites Otto as being in the same field of endeavor. The Applicant respectfully disagrees and points out that Otto discloses that the non-quadrature correction circuit is applicable to solving phase error problem in a **receiver's** phase comparator, **not in a transmitter** (see Otto's abstract and Fig. 1). The Applicant respectfully maintains that Otto is not a relevant prior art for purposes of 35 U.S.C. § 103(a) rejection in combination with Sowadski.

Therefore, the proposed combination of Sowadski and Otto does not teach or suggest "generating, in a transmitter, a signal at a particular frequency, the signal being associated with a harmonic frequency signal disposed at a

harmonic frequency, selecting, in said transmitter, frequency content disposed in a region around the harmonic frequency, attenuating, in said transmitter, said selected frequency content disposed in said region around the harmonic frequency" as recited in Applicant's claim 1.

Accordingly, the proposed combination of Sowadski and Otto does not render independent claim 1 unpatentable, and a *prima facie* case of obviousness has not been established. The Applicant submits that claim 1 is allowable. Independent claims 21 and 32 are similar in many respects to the method disclosed in independent claim 1. Therefore, the Applicant submits that independent claims 21 and 32 are also allowable over the references cited in the Office Action at least for the reasons stated above with regard to claim 1.

**A(2). Rejection of Dependent Claims 2-7, 14-20, 24-29, 33-35, and 39-40**

Based on at least the foregoing, the Applicant believes the rejection of independent claims 1, 21, and 32 under 35 U.S.C. § 103(a) as being anticipated by Sowadski in view of Otto has been overcome and request that the rejection be withdrawn. Additionally, claims [2-7, 14-20], 24-29, and [33-35, 39-40] depend directly or indirectly from independent claims 1, 21, and 32, respectively, and are, consequently, also respectfully submitted to be allowable.

The Applicant also reserves the right to argue additional reasons beyond those set forth above to support the allowability of claims 1-7, 14-21, 24-29, 32-35, and 39-40.

## **II. Rejection of Dependent Claims 8-10, 30-31, and 37-38**

Claims 8-10, 30 and 31 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Sowadski, in view of Otto, as applied to claims 1 and 21 above, and further in view of Boesch et al. (US 6,298,244, hereinafter Boesch).

Based on at least the foregoing, the Applicant believes the rejection of independent claims 1, 21, and 32 under 35 U.S.C. § 103(a) as being anticipated by Sowadski in view of Otto has been overcome and request that the rejection be withdrawn. Additionally, since the Applicant points out that Boesch's power amplifier circuit is not combinable for use in Sowadski's or Otto's receiver, therefore is a non-analogous prior art reference. Moreover, (Boesch) does not overcome the deficiencies of Sowadski and Otto, claims 8-10, 30-31, and 37-38 depend directly or indirectly from independent claims 1, 21, and 32, respectively, and are, consequently, also respectfully submitted to be allowable.

The Applicant also reserves the right to argue additional reasons beyond those set forth above to support the allowability of claims 8-10, 30-31, and 37-38.

## **III. Rejection of Dependent Claims 11-13 and 22-23**



Claims 11-13 and 22-23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Sowadski, in view of Otto, as applied to claims 1 and 21 above, and further in view of Cairns (US 5,794,131, hereinafter Cairns).

Based on at least the foregoing, the Applicant believes the rejection of independent claims 1, 21, and 32 under 35 U.S.C. § 103(a) as being anticipated by Sowadski in view of Otto has been overcome and request that the rejection be withdrawn. Additionally, since the Applicant points out that Cairns's transmitter mixer circuit is not combinable for use in Sowadski's or Otto's receiver, therefore is a non-analogous prior art reference. Moreover, since the additional cited reference (Cairns) does not overcome the deficiencies of Sowadski and Otto, claims 11-13 and 22-23 depend directly or indirectly from independent claims 1 and 21, respectively, and are, consequently, also respectfully submitted to be allowable.

The Applicant also reserves the right to argue additional reasons beyond those set forth above to support the allowability of claims 11-13 and 22-23.

#### **IV. Rejection of Dependent Claims 33-35, 39 and 40**

Claims 32-35, 39 and 40 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Sowadski, in view of Otto.

Based on at least the foregoing, the Applicant believes the rejection of independent claims 1, 21, and 32 under 35 U.S.C. § 103(a) as being anticipated

by Sowadski in view of Otto has been overcome and request that the rejection be withdrawn. Additionally, claims 33-35, 39 and 40 depend directly or indirectly from independent claims 1, 21 and 32, respectively, and are, consequently, also respectfully submitted to be allowable.

The Applicant also reserves the right to argue additional reasons beyond those set forth above to support the allowability of claims 32-35, 39 and 40.

#### **V. Rejection of Dependent Claim 36**

Claims 36 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Sowadski, in view of Otto, as applied to claim 35 above, and further in view of Puechberty et al. (US 6,026,287, hereinafter Puechberty).

Based on at least the foregoing, the Applicant believes the rejection of independent claims 1, 21, and 32 under 35 U.S.C. § 103(a) as being anticipated by Sowadski in view of Otto has been overcome and request that the rejection be withdrawn. Additionally, since the Applicant points out that Puechberty's transmitter mixer circuit is not combinable for use in Sowadski's or Otto's receiver, therefore is a non-analogous prior art reference. Moreover, since the additional cited reference (Puechberty) does not overcome the deficiencies of Sowadski and Otto, claim 36 depends directly or indirectly from independent claim 32, and is, consequently, also respectfully submitted to be allowable.

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The Applicant also reserves the right to argue additional reasons beyond those set forth above to support the allowability of claim 36.

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**CONCLUSION**

Based on at least the foregoing, the Applicant believes that all claims 1-40 are in condition for allowance. If the Examiner disagrees, the Applicant respectfully requests a telephone interview, and requests that the Examiner telephone the undersigned Patent Agent at (312) 775-8093.

The Commissioner is hereby authorized to charge any additional fees or credit any overpayment to the deposit account of McAndrews, Held & Malloy, Ltd., Account No. 13-0017.

A Notice of Allowability is courteously solicited.

Respectfully submitted,

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